

APPENDIX K

COMPARISON TABLES BETWEEN QUALITY ASSURANCE DOCUMENTS

The comparison tables in this appendix provide a reference for the MARSSIM user who may not be familiar with developing a QAPP based on EPA QA/R-5 (EPA 1994c). The tables relate the basic recommendations and requirements of EPA QA/R-5 and other quality assurance documents the reader may be more familiar with.

Each of the quality assurance documents compared in these tables was developed for a specific industry and scope. For this reason, there is not a direct comparison from one document to another. Rather, the tables are designed to show similarities between different quality assurance documents. In addition, there are topics specific to certain quality assurance documents that do not have a counterpart in these comparison tables.

If there is no section listed as being comparable with a section of EPA QA/R-5, this does not necessarily mean that the topic is not covered by the quality assurance document. In some cases the topic may have been divided up into several subtopics that are distributed between other sections of the particular document.

This appendix is not meant to provide a thorough cross-reference between different quality assurance documents. The purpose of these comparison tables is to demonstrate how the content of QAPPs might be arranged differently and show a user the location of important information concerning radiation surveys and site investigations. This might occur if the QAPP is developed using guidance the reviewer is unfamiliar with.

EPA QA/R-5 is compared with five quality assurance documents in the following tables:

- EPA QAMS-005/80 (EPA 1980d)
- ASME NQA-1 (ASME 1989)
- DOE Order 5700.6c (DOE 1991c)
- MIL-Q-9858A (DOD 1963)
- ISO 9000 (ISO 1987)

Table K.1 Comparison of EPA QA/R-5 and EPA QAMS-005/80

EPA QA/R-5 Elements		EPA QAMS-005/80	
A1	Title and Approval Sheet	1.0	Title Page with Provision for Approval Signatures
A2	Table of Contents	2.0	Table of Contents
A3	Distribution List		
A4	Project/Task Organization	4.0	Project Organization and Responsibility
A5	Problem Definition/Background	3.0	Project Description
A6	Project/Task Description	3.0	Project Description
A7	Quality Objectives and Criteria for Measurement Data	5.0	Quality Assurance Objectives for Measurement Data
A8	Project Narrative		
A9	Special Training Requirements/Certification		
A10	Documentation and Records		
B1	Sampling Process Design	6.0	Sampling Procedures
B2	Sampling Methods Requirements	6.0	Sampling Procedures
B3	Sample Handling and Custody Requirements	7.0	Sample Custody
B4	Analytical Methods Requirements	9.0	Analytical Methods
B5	Quality Control Requirements	11.0	Internal Quality Control Checks and Frequency
B6	Instrument/Equipment Testing, Inspection, and Maintenance Requirements	13.0	Preventive Maintenance Procedures and Schedules
B7	Instrument Calibration and Frequency	8.0	Calibration Procedures and Frequency
B8	Inspection/Acceptance Requirements for Supplies and Consumables		
B9	Data Acquisition Requirements		
B10	Data Quality Management		
C1	Assessments and Response Actions	12.0 15.0	Assessment and Response Actions Corrective Actions
C2	Reports to Management	16.0	Quality Assurance Reports to Management
D1	Data Review, Validation, and Verification Requirements	10.0	Data Reduction, Validation, and Reporting
D2	Validation and Verification Methods	10.0	Data Reduction, Validation, and Reporting
D3	Reconciliation with User Requirements		

Table K.2 Comparison of EPA QA/R-5 and ASME NQA-1

EPA QA/R-5 Elements		ASME NQA-1 Elements	
A1	Title and Approval Sheet		
A2	Table of Contents		
A3	Distribution List		
A4	Project/Task Organization	1.	Organization
A5	Problem Definition/Background		
A6	Project/Task Description	3.	Design Control
A7	Quality Objectives and Criteria for Measurement Data	2.	Quality Assurance Program
A8	Project Narrative	8.	Identification and Control of Items
A9	Special Training Requirements/Certification		
A10	Documentation and Records	4. 6.	Procurement Document Control Document Control
B1	Sampling Process Design	3.	Design Control
B2	Sampling Methods Requirements	5.	Instructions, Procedures, and Drawings
B3	Sample Handling and Custody Requirements	13.	Handling, Storage, and Shipping
B4	Analytical Methods Requirements	5.	Instructions, Procedures, and Drawings
B5	Quality Control Requirements	9. 11.	Control of Processes Test Control
B6	Instrument/Equipment Testing, Inspection, and Maintenance Requirements	10. 12.	Inspection Control of Measuring and Test Equipment
B7	Instrument Calibration and Frequency	14.	Inspection, Test, and Operating Status
B8	Inspection/Acceptance Requirements for Supplies and Consumables	7. 8.	Control of Purchased Items and Services Identification and Control of Items
B9	Data Acquisition Requirements		
B10	Data Quality Management		
C1	Assessments and Response Actions	15. 16. 18.	Control of Nonconforming Items Corrective Action Audits
C2	Reports to Management	17.	Quality Assurance Records
D1	Data Review, Validation, and Verification Requirements		
D2	Validation and Verification Methods		
D3	Reconciliation with User Requirements		

Table K.3 Comparison of EPA QA/R-5 and DOE Order 5700.6c

EPA QA/R-5 Elements		DOE Order 5700.6C Elements	
A1	Title and Approval Sheet		
A2	Table of Contents		
A3	Distribution List		
A4	Project/Task Organization	2	Personnel Training and Qualification
A5	Problem Definition/Background	1	Program
A6	Project/Task Description		
A7	Quality Objectives and Criteria for Measurement Data	1	Program
A8	Project Narrative		
A9	Special Training Requirements/Certification	2	Personnel Training and Qualification
A10	Documentation and Records	4	Documents and Records
B1	Sampling Process Design	6	Design
B2	Sampling Methods Requirements	5	Work Processes
B3	Sample Handling and Custody Requirements		
B4	Analytical Methods Requirements	5	Work Processes
B5	Quality Control Requirements		
B6	Instrument/Equipment Testing, Inspection, and Maintenance Requirements	8	Inspection and Acceptance Testing
B7	Instrument Calibration and Frequency		
B8	Inspection/Acceptance Requirements for Supplies and Consumables	7 8	Procurement Inspection and Acceptance Testing
B9	Data Acquisition Requirements		
B10	Data Quality Management		
C1	Assessments and Response Actions	10	Independent Assessment
C2	Reports to Management	9	Management Assessment
D1	Data Review, Validation, and Verification Requirements		
D2	Validation and Verification Methods		
D3	Reconciliation with User Requirements	3	Quality Improvement

Table K.4 Comparison of EPA QA/R-5 and MIL-Q-9858A

EPA QA/R-5 Elements		MIL-Q-9858A Elements	
A1	Title and Approval Sheet		
A2	Table of Contents		
A3	Distribution List		
A4	Project/Task Organization	3.1	Organization
A5	Problem Definition/Background		
A6	Project/Task Description		
A7	Quality Objectives and Criteria for Measurement Data	3.2	Initial Quality Planning
A8	Project Narrative		
A9	Special Training Requirements/Certification		
A10	Documentation and Records	3.4 4.1	Records Drawings, Documentation, and Changes
B1	Sampling Process Design		
B2	Sampling Methods Requirements	3.3	Work Instructions
B3	Sample Handling and Custody Requirements	6.4	Handling, Storage, and Delivery
B4	Analytical Methods Requirements	3.3	Work Instructions
B5	Quality Control Requirements	6.7	Identification of Inspection Status
B6	Instrument/Equipment Testing, Inspection, and Maintenance Requirements	4.2	Measuring and Test Equipment
B7	Instrument Calibration and Frequency	4.2	Measuring and Test Equipment
B8	Inspection/Acceptance Requirements for Supplies and Consumables	5.0 6.1	Control of Purchases Materials and Material Control
B9	Data Acquisition Requirements		
B10	Data Quality Management	3.4	Records
C1	Assessments and Response Actions	3.5 6.5	Corrective Action Nonconforming Material
C2	Reports to Management	3.6	Costs Related to Quality
D1	Data Review, Validation, and Verification Requirements		
D2	Validation and Verification Methods	6.6	Statistical Quality Control
D3	Reconciliation with User Requirements		
		6.2	Production Processing and Fabrication
		6.3	Completed Item Inspection and Test

Table K.5 Comparison of EPA QA/R-5 and ISO 9000

EPA QA/R-5 Elements		ISO 9000 Elements	
A1	Title and Approval Sheet		
A2	Table of Contents		
A3	Distribution List		
A4	Project/Task Organization	4	Management Responsibility
A5	Problem Definition/Background		
A6	Project/Task Description		
A7	Quality Objectives and Criteria for Measurement Data	5 5.2	Quality System Principles Structure of the Quality System
A8	Project Narrative		
A9	Special Training Requirements/Certification		
A10	Documentation and Records		
B1	Sampling Process Design	8	Quality in Specification and Design
B2	Sampling Methods Requirements	10	Quality in Production
B3	Sample Handling and Custody Requirements	16	Handling and Post Production Functions
B4	Analytical Methods Requirements	10	Quality in Production
B5	Quality Control Requirements	11	Control of Production
B6	Instrument/Equipment Testing, Inspection, and Maintenance Requirements	13	Control of Measuring and Test Equipment
B7	Instrument Calibration and Frequency		
B8	Inspection/Acceptance Requirements for Supplies and Consumables	9 11.2	Quality in Procurement Material Control and Traceability
B9	Data Acquisition Requirements		
B10	Data Quality Management		
C1	Assessments and Response Actions	5.4 14 15	Auditing the Quality System Nonconformity Corrective Action
C2	Reports to Management	5.3 6	Documentation of the Quality System Economics—Quality Related Costs
D1	Data Review, Validation, and Verification Requirements	11.7	Control of Verification Status
D2	Validation and Verification Methods	12	Verification Status
D3	Reconciliation with User Requirements		
		7	Quality in Marketing